

## ABSTRACT OF THE DISCLOSURE

The invention has an object of enhancing the service capacity and the operability of a network and simplifying the maintenance and control of the network by adopting a size automatic change mode after a path is set and providing arbitrary path size at arbitrary time. To achieve the object, the following means is provided. The service capacity and the operability of a network are enhanced and the maintenance and control of the network are simplified by adopting a size automatic change mode that the size of an input path signal conforms to information written to line overhead H1 and H2 bytes and an output path signal is transmitted with the path size the same as the size of the input path signal. A case that receiving path size changes exceeding a band and the fault of a path is caused occurs by providing both modes of fixing path size and automating path size to a user, flexibly corresponding to various service and automatically changing path size. At this time, an operation system identifies the cause, analyzes an influenced range and realizes the simplification of the maintenance and control of the network.